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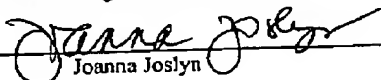
In re United States Patent Application of:)	Docket No.:	2771-546-CIP1
Applicants: DIMEO, Frank, et al.)	Conf. No.:	8335
Application No.: 10/784,606)	Art Unit:	2856
Date Filed: February 23, 2004)	Examiner:	Jacques M. Saint Surin
Title: NICKEL-COATED FREE-STANDING SILICON CARBIDE STRUCTURE FOR SENSING FLUORO OR HALOGEN SPECIES IN SEMICONDUCTOR PROCESSING SYSTEMS, AND PROCESSES OF MAKING AND USING SAME)	Customer No.:	23448

**FACSIMILE TRANSMISSION CERTIFICATE
ATTN: Examiner Jacques M. Saint Surin
Fax No. (571) 273-8300**

I hereby certify that this document is being filed in the United States Patent and Trademark Office, via facsimile transmission to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on December 30, 2005, to United States Patent and Trademark Office facsimile transmission number (571) 273-8300.

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Number of Pages (including cover)


Joanna Joslyn

December 30, 2005

Date

**RESPONSE TO NOVEMBER 30, 2005 OFFICE ACTION IN
U.S. PATENT APPLICATION NO. 10/784,606**

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This is responsive to the November 30, 2005 Office Action in the above-referenced application.

2771-546-CIP1

A. No New Listing of Claims

No listing of the claims is provided herewith since no changes to the claims are requested relative to the listing of claims 1-38 submitted with Applicants' "Response June 16, 2005 Office Action" filed on September 16, 2005 in the above-referenced application and already of record.

B. Renewed Request for Rejoinder of Claims 26-36

In Applicant's "Response to February 24, 2005 Office Action" filed on March 22, 2005, Applicants amended method claims 26 and 36 directed to processes of making gas sensors according to (now-allowed) claims 1 and 12, and requested rejoinder of claims 26 and 36 upon allowance of the product claim(s). See "Response to February 24, 2005 Office Action," pp. 10-11. Such request for rejoinder is hereby renewed.

MPEP §821.04 expressly provides that when the application as originally filed discloses a product and the process for making and/or using such product, and only claims directed to the product are presented for examination, when a product claim is found allowable, applicant may present claims directed to the process of making and/or using the patentable product for examination through the rejoinder procedure, provided that the process claims depend from or include all the limitations of the allowed product claims.

For comparison, claims 1, 12, 26, and 36 are reproduced below:

1. A gas sensor assembly for sensing halogen species comprising:
a substrate having a substrate surface; and
at least one gas sensor, wherein the gas sensor comprises:
a free-standing support structure, wherein the free standing support structure comprises at least two spaced apart contacts that project above the substrate surface into an air cavity and a lateral surface that spans between the projecting contacts with an air cavity therebeneath, wherein the free-standing support structure is fabricated of a support material that is resistant to the halogen species; and

2771-546-CIP1

a metal gas sensor element positioned on at least the lateral surface of the free-standing support structure, wherein said metal sensor element comprises a metal or metal alloy exhibiting a detectable change upon contact with a halogen species

12. A gas sensor assembly comprising:

a substrate; and

a free-standing gas sensing element positioned on the substrate and arranged for contact with a gaseous environment susceptible to the presence or change of concentration of one or more target gas species therein, wherein said free-standing gas sensing element comprises:

a suspended support structure comprising at least one protrusion rising above the substrate and a lateral surface contacting the protrusion and extending beyond the protrusion to form an air gap thereunder and wherein at least the lateral surface is coated with a layer of a gas sensing material, and wherein said gas sensing material in exposure to the target gas species exhibits a response indicative of the presence or change of concentration of the target gas species in said gaseous environment.

26. A method of manufacturing a gas sensor assembly comprising a free-standing gas sensing element that comprises a suspended support structure coated with a layer of a gas sensing material, which in exposure to a target gas species in a gaseous environment exhibits a response indicative of the presence or change of concentration of said target gas species in the gaseous environment, said method comprising the steps of:

depositing on a base structure a first molding material layer;
depositing a second molding material layer on said first molding material layer;
patterning said second molding material layer to form recesses therein that defines a predetermined supporting structure;
depositing a support material in said recesses;
selectively removing the second molding material layer, to form a support structure;
depositing on the support structure a gas sensing material; and
selectively removing the first molding material layer to release the support structure, thereby forming the free-standing gas sensing element comprising the suspended support structure with a layer of gas sensing material coated thereon.

36. A method of manufacturing a gas sensor assembly comprising a free-standing gas sensing element that comprises a suspended support structure coated with a layer of a gas sensing material, which in exposure to a target gas species in a gaseous environment exhibits a response indicative of the presence or change of concentration of said target gas species in the gaseous environment, wherein said

2771-546-CIP1

free-standing gas sensing element is supported by one or more spaced-apart contacts fabricated over a barrier layer, said method comprising the steps of:

depositing on a substrate a first molding material layer;

 patterning said first molding material layer to form at least one barrier recess that defines a predetermined barrier structure overlaying the substrate member;

 depositing in said barrier recess a barrier material;

 depositing a second molding material layer over the first molding material layer and the barrier material;

 patterning said second molding material layer to provide contact recesses that define one or more predetermined spaced-apart contacts overlaying the barrier material;

 depositing in said contact recesses a contact-forming material;

 depositing a third molding material layer over the second molding material layer and the contact-forming material;

 patterning said third molding material layer to provide support recesses that define a predetermined support structure overlaying both the contact-forming material and the second molding material layer;

 depositing in said support recesses a support material;

 selectively removing the third molding material to form a protruding support structure;

 depositing a gas sensing material on the protruding support structure; and

 selectively removing the first and the second molding materials, thereby forming the free-standing gas sensing element comprising the suspended support structure coated with a layer of gas sensing material,

 wherein such free-standing gas sensing element is supported by such spaced-apart contacts overlaying the barrier layer, and wherein the barrier layer overlays and protects the substrate.

Here, claims 26 and 36 comply with MPEP §821.04 by including the limitations of the allowed product claims 1 and 12; therefore, **rejoinder is proper, and requested.**

2771-546-CIP1

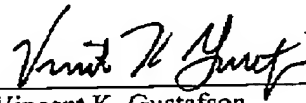
C. Request for Consideration of Information Disclosure Statements

One Information Disclosure Statement was filed on December 6, 2005, before Applicant's receipt of, but after the Office's mailing of, the November 30, 2005 Office Action. A second Information Disclosure Statement is enclosed herewith for filing in connection with a Request for Continued Examination under 37 CFR 1.114. Consideration of the references cited in the November 30, 2005 IDS and in the IDS presently filed herewith is respectfully requested.

Conclusion

Applicants have satisfied the requirements for patentability. All pending claims 1-38 are in condition for allowance. In the event that any issues remain, Examiner Saint-Surin is requested to contact the undersigned attorney at (919) 419-9350 to resolve the same.

Respectfully submitted,



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Enclosures: Request for Continued Examination Transmittal
Supplemental Information Disclosure Statement
Credit Card Form PTO-2038